THE CONTRIBUTION OF PHYSICIAN DECISION-MAKING TO HEALTH INEQUITIES

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Abstract

Social determinants of health are widely recognized as a factor in the delivery of health care and patient health outcomes. In this thesis, I illustrate different ways in which physician decisions may contribute to the correlation between social determinants of health, delivery of health care, and patient health outcomes. I use three examples of categories of physician decisions to suggest that decision making may be contributing to patient health outcomes, the delivery of health care, and the exacerbation of background inequities. These examples include the use of assessment tools (i.e. adherence assessments, vaginal birth after cesarean section (VBAC) calculator, cardiology assessments) in clinical decision making, the use of patient behaviors (i.e. injection drug use) to determine eligibility for procedures, and physician conscientious objection (i.e. moral objections to abortion, contraception, LGBTQIA+ care) to providing care. Five possible solutions to addressing these issues are suggested, including reforming health care to mitigate background inequities and involving physicians in these efforts; modifying problematic assessment tools; minimizing implicit and explicit bias at the point of care; limiting the inherent biases in and scope of conscientious objection; and reforming medical education.

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Dedication

This thesis is dedicated to my family and close friends: Alison, Frank, Lizzie, Andy, Brett, and Brittany, for providing me support this past year as I dove deeply into my education at the Berman Institute of Bioethics.

“Not everything that is faced can be changed, but nothing can be changed until it is faced.” – James Baldwin

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I. Introduction

In the United States there is a strong correlation between background social determinants (such as race, income level, gender, insurance status, sexual orientation), delivery of health care, and patient health outcomes.[1] This thesis analyzes various ways in which physician decisions about patient care may contribute to health disadvantage and the exacerbation of background social inequities. For example, implicit and explicit bias may impact the ways in which physicians make decisions about their patients' care. Another example is the use of assessment tools to evaluate patient candidacy for certain procedures. Both of these can have direct effects on health care delivery and patient outcomes, which may lead to health disadvantage and thereby to the exacerbation of background inequities. Physicians are tasked with making a large range of medical decisions on their patients' behalf. Although they receive many years of education and clinical experience to prepare them for this responsibility, there are still various ways in which physician decisions may be exacerbating background inequities.

This paper will consider three distinct categories of physician decisions, all of which may contribute to health inequities and disparate health outcomes, but which do so in different ways and raise different ethical issues. As shown in Table 1, the categories are the use of assessment tools in clinical decision making, the use of patient behaviors to determine eligibility for procedures, and conscientious objection to providing care. The ways in which these decisions impact patient health outcomes will be illustrated and five possible solutions for addressing these issues will be discussed. These solutions include reforming health care to mitigate background inequities and involving physicians in these efforts; modifying problematic assessment tools;

minimizing implicit and explicit bias at the point of care; limiting the inherent biases in and the scope of conscientious objection; and medical education reform.

Table 1. Examples of physician decisions and the impacts these decisions may have on health care and health outcomes.

Physician decision	**Examples**	**Impact on health care and health outcomes**
Use of assessment tools (adherence assessments, VBAC calculator) in clinical decision making	Assessing for patient candidacy for transplants, cardiac procedures, and OBGYN procedures	Disparities in who gets certain procedures
Use of patient behaviors to determine eligibility for procedures	Injection drug use to determine eligibility for repeat valve replacement in infective endocarditis cases	Inadequate care for certain patient populations, potentially based on biases Possibly creating greater social stigma towards these populations Leading these populations to suffer worse outcomes from certain diseases (i.e., death from infective endocarditis)
Conscientious objection to providing care	Moral objection to providing abortions Moral objection to providing certain kinds of care to patients who identify as LGBTQIA+ Moral objection to prescribing or filling prescriptions for contraception	Mistrust between these populations and medicine Harder for these populations to access care, leading to possibility of medical neglect of these patients May face greater morbidity and mortality than other patient populations because of this neglect

II. Use of assessment tools in clinical decision making

A first category of physician decisions is the use of assessment tools in clinical decision making. Physician decisions are sometimes based on the use of assessments in virtually every field of medicine. I here consider the use of assessments in transplant medicine, obstetrics and gynecology, and cardiology to illustrate how such use can impact the delivery of health care and contribute to disparate health outcomes.

First, in the case of transplant medicine, physicians may use assessment tools to evaluate patient candidacy for successful transplant procedures. These include assessments to measure patient adherence to post-operative treatment, assessments to measure levels of social support that a patient may have outside of the clinical setting, and assessments to evaluate patients for mental illness and potential drug use.[2] These assessments are important because they guard against wasteful use of scarce medical resources and protect patients from serious risks of an unsuccessful transplant procedure.[2] These risks include loss of a graft, death of the patient, and economic losses, all of which can occur in the event of non-adherence to post-transplant treatment regimens.[2]

Patients who typically are deemed ineligible for transplants due to these assessments are individuals with substance abuse disorders, mental health disorders, and those perceived to have low levels of social support.[2] Although substance abuse disorders and mental illnesses are complex in the nature in which they develop, there may be some evidence to support the notion that social inequities are a contributing factor to their development. For instance, structural social issues such as drug criminalization, poverty, and lack of proper resources for drug detoxification and drug

abstinence have been shown to contribute to substance abuse.[3] Similarly, socioeconomic disadvantage, social inequality, and poverty may increase the risk of developing a mental illness.[4,5] Further, some mental illnesses may manifest through environmental factors, like socioeconomic inequality, which themselves can be outcomes of social disadvantage.[4] Additionally, some people may face circumstances that lead to social causes of mental illness and may also be subjected to worse social treatment due to their illness.[5] Thus, we see that when transplant decisions are based on factors such as substance abuse disorders, mental health disorders, and perceived low levels of social support, this will disadvantage patient groups with higher levels of background social disadvantage. Thus, along with the broadly recognized problem that clinical decisions based in biases can exacerbate background inequities, there is a less well-recognized way in which clinical decisions exacerbate background inequity: decisions may be unbiased but be based on factors (such as drug use or mental illness) that reflect background inequities.

An additional concern is that, however important these assessments may be for patient safety and preservation of scarce medical resources, they may not always be fully objective.[2] In the case of guidelines for assessing patient adherence in certain transplant cases, there is, “a lack of objective methods to define, quantify, and measure the risk of nonadherence” and a “lack of standardized guidelines on whom to perform this assessment.”[2] This may mean that although these assessments could in principle be based in objective facts, the ways in which they are actually designed, implemented, and used allow physician judgements to determine the outcome of the assessment rather than the objective facts themselves. For instance, if there is a lack of knowledge

on who to assess, then physicians must be the deciders of which patients will be evaluated for adherence using these assessments. For example, lack of knowledge on who to assess may leave room for physician biases to influence decision making, causing them to assess some populations for non-adherence more often than other populations, and in turn ultimately deny transplants to those groups at a higher rate.

Additionally, if there are a lack of factual ways to define, quantify, and measure nonadherence, then there may be a greater possibility that physician judgements and biases can influence these decisions. This is particularly a problem, especially if the physician experiences implicit bias. Implicit bias may cause a physician to evaluate patients' risks of nonadherence differently. For instance, one study found that some physicians were shown to associate white patients with adherent behaviors, and patients of color with non-adherent behaviors when assessing a patient's potential for adherence prior to a transplant procedure.[2] This shows that biases may be an underlying contributor to physician decisions in cases of transplant medicine.

Assessment tools are also used in clinical decision making in obstetrics and gynecology. For example, the VBAC calculator is an assessment tool used by physicians to make decisions regarding a patients risk of having a vaginal birth after a previous cesarean section.[6] It is important to note that cesarean sections are major surgical procedures with severe risks, like hemorrhaging,[6] that may be exacerbated when a patient is subject to multiple cesarean sections.[7] These procedures are often accompanied by longer recovery periods when compared to vaginal births.[6]

The VBAC calculator was thought to be a sufficient predictor of successful vaginal births for mothers who have had prior deliveries using cesarean section.[6]

Although in recent years race has been removed as a factor,[8] the VBAC originally categorized African American and Hispanic women as less likely to have a successful vaginal birth because of their race.[6] The VBAC worked by incorporating different factors to measure success rates, including race and ethnicity as a correction factor.[6] These correction factors disproportionately impacted the birthing experience of African American and Hispanic women.[6] For example, an important part of the birthing experience for some women may include the ability to follow a birthing plan. These plans can be simple or extensive and some may include the plan to have a vaginal birth. There may be many instances in which something goes wrong during labor and cesarean section must be utilized to save the lives of the mother or child. However, the way in which the VBAC was designed may have prevented some African American and Hispanic women from achieving their desired birthing plan, because it caused them to receive lower VBAC scores due to their race, consequently causing them to be more likely to undergo cesarean section instead of vaginal birth in cases where they have had previous deliveries via vaginal birth.[6] Further, some physicians may be hesitant to offer a trial of labor, which is a "planned attempt to allow labor in women who had previous cesarean birth, regardless of the outcome of previous cesarean."[9] This hesitation is due to these women's' low VBAC scores,[6] and therefore may eliminate the option of a vaginal delivery for these mothers.

More strikingly, the development of the VBAC calculator was based in historically racist beliefs about the differences in pelvic structure between women of different racial groups.[6] In the past, when this calculator was created, physicians believed that these women had "faulty" anatomy that was not compatible with natural

childbirth, beliefs that were not supported by biological evidence.[6] There were also other factors that were linked to higher risk for a vaginal birth after a previous cesarean section, including marital status and insurance type.[10] However, neither marital status nor insurance type were incorporated into the VBAC.[10]

It is important to note that conversations regarding the problematic use of the VBAC have emerged over the past few years.[8] These conversations led by healthcare professionals have raised awareness about the racist history of the VBAC. Race and ethnicity have now been removed as factors from the VBAC.[8] This is an important step in the right direction for addressing health inequities and disparities that arise in the field of obstetrics and gynecology.

Assessment tools may also be used to make clinical decisions in cardiology. For instance, physicians use certain assessment tools to make clinical judgements when reviewing patients for potential valve replacement surgeries. Assessment tools such as The Society of Thoracic Surgeons Short Term Risk Calculator uses race as a variable to determine complications for a variety of cardiac procedures.[10] The use of race in this calculator may impact the way in which cardiac care is delivered, while also exposing certain patient populations to worse health outcomes because they become characterized as higher risk for these procedures, therefore causing them to receive these procedures at a lower rate than other populations.[10]

There is also evidence to show that these judgements may be influenced by biases, and these biases are contributing to health disparities in various sub-fields of cardiology. For instance, a recently published paper found that African American patients were less likely to receive valve replacements than white patients for cases of

infective endocarditis in high-volume hospitals.[11] Further, utilization rates of transcatheter aortic valve replacement (TAVR), transcatheter mitral valve repair (TMVr), and left atrial appendage occlusion (LAAO) procedures were significantly higher in white patients than in African American or Hispanic patients.[12] Another study found that African American patients were less likely than white patients to receive mitral valve repairs instead of replacements, even though repair was preferable to replacement in these cases.[13] Furthermore, African American patients were less likely to undergo coronary artery bypass graft (CABG) or percutaneous coronary intervention (PCI) procedures than white patients.[14] A systematic review conducted between 2000 and 2017 documented notable differences in the management of cardiac care between racial groups.[15] Evidence of these differences was found across three management types including rhythm and rate control, vitamin K antagonists, and anticoagulation medications, with minority patients less likely to receive the medically preferred method of care for their conditions.[15]

Studies have shown that these differences in treatment plans may be resulting from physician decision making.[16] For example, a study surveying physicians on the allocation of heart transplants for patients with heart failure showed that race was a prevalent factor used to determine a patient's course of treatment through every step of the physician's decision-making process.[16] The study found that physicians had negative beliefs about African American patients' levels of social support, adherence, and trustworthiness.[16] These are implicit biases that are motivating physicians to make transplant allocation decisions that may be contributing to health disparities in cardiology.[16]

Another survey that was presented to senior medical students showed some evidence of bias impacting their likelihood of making certain medical decisions.[17] The individual factors that were found to influence these decisions included socioeconomic status, intersectionality between patient gender and race, and student geographical information.[17] This study found that high socioeconomic status was a strong indicator of senior medical students recommending a procedure for cardiology patients.[17]

III. Use of patient behaviors to determine eligibility for procedures

Another category of physician decision making is when specific patient behaviors, such as persistent injection drug use, are explicitly used to determine eligibility for specific medical procedures. These decisions are complicated, as they may reflect reasonable clinical judgements but may also be partially motivated by physician bias.

Patient behaviors such as persistent injection drug use may be used to determine eligibility for repeat valve replacement procedures in cases of infective endocarditis. Reasons for not performing these procedures on people who inject drugs may include the likelihood of reinfection of newly replaced valves, high mortality rates, limited resources, and unfavorable risk to benefit ratios.[18] At first glance, these seem like relatively important considerations to take into account as a physician whose job is to heal and not harm. However, the worry is that physicians may subconsciously be using their internalized moral beliefs about people who use drugs to make decisions about repeat valve replacement procedures in this population of patients. Strikingly, the literature has documented instances in which physicians feel that due to people who

inject drugs relying on government funded public assistance they have a “duty to the community by not prolonging the lives of patients with infective endocarditis secondary to drug use,” and they would be avoiding economic burdens by not performing these procedures.[18]

A helpful comparison to understand the degree to which bias contributes to this category of physician decisions can be seen when analyzing social responses to other high-risk activities such as high contact sports. Table 2 shows a comparison between common injuries or illness, common reparative procedures, and incidence of re-injury or subsequent illness of injection drug use and high contact sports. High contact sports are considered to be high-risk, and athletes may acquire multiple injuries throughout their careers. However, nobody says they should be denied repeat care for the repeat injuries they sustain. So, why are there different attitudes regarding treatment between people who inject drugs and those who participate in high contact sports? This may be due to differing levels of risks associated with common reparative procedures for each activity. For instance, an anterior cruciate ligament (ACL) repair procedure may have lower risks than a valve replacement procedure. However, it is also possible that physician biases are motivating decisions that are contributing differing attitudes regarding treatment for people who play high-contact sports versus people who inject drugs. The incidence of re-injury of the ACL in high contact division I football was found to be 26.5%, while the incidence of re-infection leading to endocarditis in people who inject drugs was found to be 32.1%.[19,20] The fact that the incidence rates are very similar may suggests that both activities have similar chances of leading to future need for additional medical assistance for the same problem.

Table 2. Comparison between socially perceived high-risk activities including injection drug use and high contact sports.

	Common injury/illness	Common reparative procedures	Incidence of re-injury/illness
Injection drug use	Infective endocarditis	Valve replacement surgery Antibiotic regimes Antiviral regimes	~ 32.1%[20]
High contact sports	Orthopedic injury Head trauma	Orthopedic surgical repair[21] Neurological rehabilitation treatment[22]	~ 26.5%[19]

IV. Conscientious objection to providing care

The last category of physician decisions considered in this paper is conscientious objection to providing care, in which physicians choose not to provide a particular treatment or service to a patient, because doing so threatens the physician's individual morality.[23] Conscientious objection is highly influenced by moral values and the potential threat to individual morality,[23] but the possibility of bias being present in these objections must not be overlooked. The rationale for permitting conscientious objection is that it helps protect the moral integrity and well-being of the physician.[23] There are supposed to be safeguards in place to ensure that patients nonetheless receive adequate care in the event of conscientious objection. If a physician chooses to conscientiously object, they must ensure the following: the patient must not be abandoned, they must be able to provide the patient with an equally able physician, and

they must ensure the patient is safe.[23] There is also legislation in place in the United States that allow physicians to conscientiously object to treating patients.[24] Examples of treatment situations in which providers make a conscientious objection to provide care include contraception prescribing, performing abortions, and treating patients who identify as LGBTQIA+. In the case of abortions, if a physician has a moral objection to performing abortions, they are not obligated to perform this medical service in the United States.[25] There have also been cases where pharmacists conscientiously object to filling a prescription for emergency contraceptive.[26] One specific case described a woman who was raped and became pregnant because a pharmacist refused to fill a prescription for emergency contraceptive.[26] Another example of conscientious objection is illustrated in a case study where a pediatrician contemplates her abilities to provide care to an expecting couple and their future child due to the fact that they are a lesbian couple.[27]

Proper safeguards for ensuring that patients are protected in the event of conscientious objection are important.[28] However, the United States supreme court does not mandate that physicians follow certain safeguards, like referring patients to another provider who will not object to treating them.[28,29] Even worse, some physicians believe they are not responsible for following the safeguards put in place for conscientious objection.[28] Additionally, the United States does not require a physician to provide a rationale behind their reasoning for conscientiously objecting,[30] which may raise issues with accountability and trust. Some states do not mandate that physicians disclose a potential scenario where they would need to conscientiously object.[30] If early disclosures were enforced, there may be more time to ensure patients see physicians

who will treat them. This is especially damaging because patients may suffer great harms when access to health care is limited, and there are no other feasible options available for them to receive the care they need and are entitled to in most states.[30] For instance, if a patient lives in a rural area and an OBGYN objects to providing them an abortion, they may need to travel great distance to find care. Further, if this scenario occurs in a state where abortion at that point in pregnancy is legal, then this patient is being denied care that they are entitled to. If this is the case, these providers should be responsible for providing the patient with another provider that does not object to providing the care in question.

V. The impacts of physician decisions on patient outcomes

The physician decisions discussed above may impact the delivery of health care, contribute to health disadvantage, and have the potential to exacerbate background inequity. As illustrated above, the use of assessment tools as a basis for physician decisions have the potential to create gaps between different populations' access to certain procedures. For example, in the case of transplant medicine, the use of assessment tools to determine patient adherence and social support levels may be contributing to worse health outcomes for certain populations. As previously mentioned, these transplant assessments seem to disfavorably impact patients with certain characteristics who are already socially disadvantaged in some other way, such as African American patients, patients with mental illness, patients who experience substance abuse, or patients who are perceived to have low levels of social support.[2] Therefore, the use of assessments in transplant medicine that evaluate for adherence and social support may be contributing to gaps in care between different patient

populations, with already more socially privileged populations having greater chances of receiving transplants than those who are socially disadvantaged.

This can also be observed in the use of the VBAC calculator and in the assessment strategies used in cardiology. The design of the VBAC was created may contribute to more birthing complications in African American and Hispanic women than in white women, because African American and Hispanic women will receive lower VBAC scores than white women[6] and therefore will receive cesarean sections at a higher rate than white women. As previously mentioned, cesarean sections are risky procedures that may be accompanied by complications.[6] These complications may be associated with greater risks and potentially higher mortality rates in African American and Hispanic women than in white women.[31] Therefore, use of the VBAC subjects African American and Hispanic women to riskier procedures and potentially higher maternal morbidity and mortality,[31] thus adding to already existent social disadvantage. All of these examples illustrate the impacts that certain assessments have on patient outcomes, disparities in care, and the ways in which they may be contributing to the exacerbation of background inequities.

The use of patient behaviors to determine eligibility for procedures may have similar effects. For example, when a physician exercises their judgement to decline a repeat valve replacement surgery to someone who injects drugs, this denial of care puts the patient at greater health risk. In cases of valve replacement for infective endocarditis, this may subject people who injects drugs to worse health outcomes than people who do not inject drugs. In this way, these types of physician decisions may result in inadequate care and thus worse health outcomes for certain populations.

Furthermore, these decisions may contribute to greater social stigma. For instance, if a physician refuses to provide service to a patient because they inject drugs, this may convey the message that it is permissible to deny care to a patient if they use drugs. If this type of behavior occurs frequently and is observed by student physicians, these behaviors may become embedded in medical practice throughout generations.

Conscientious objection to care in the United States impacts patient outcomes and may also be exacerbating social inequity. These acts of conscientious objection may have negative effects on patients, and may exacerbate background inequities. For example, the elimination of no co-pay contraceptive medication is causing women to have to pay more money for birth control.[28] Some women may not be able to afford out-of-pocket expenditure on birth control, therefore these women may experience unwanted pregnancy or exacerbation of certain health conditions that birth control may be used to treat. Physician conscientious objection to abortion may prevent women from exercising their legal right (aside from individual state restrictions) to terminate an unwanted pregnancy at certain stages, causing worse health outcomes for some women. Arguably, these worse health outcomes are a form of gender-based inequity.

Additionally, conscientious objection may cause mistrust between certain populations and the medical field. In the case mentioned about a woman who was raped and became pregnant after being denied a prescription fill for emergency contraception, there is a good chance that this experience created a divide between her and the medical profession. This woman went through the trauma of being raped followed by the trauma of being denied medical care to prevent pregnancy, which forced her into an unwanted pregnancy for which she later had to seek an abortion.[26]

Understandably so, the trauma she likely experienced by being denied medical care in a time of emergency may have led to un-mendable distrust between her and any medical professionals. If this woman experiences medical issues in the future, she may be hesitant to seek care, which may lead to worse health outcomes. In general, cases of conscientious objection may lead to distrust and decreases in seeking out medical care, which may lead to greater inequity in health outcomes for these patient populations.

VI. Solutions

The examples of physician decisions discussed above show that background inequities can be exacerbated by physicians' personal biases (both implicit and explicit), physician judgement when using assessment tools, the criteria used to make patient care decisions, and physician conscientious objection to providing care.

I propose five categories of solutions to address the exacerbation of background inequities. These solutions include reforming health care to mitigate background inequities and involving physicians in that process; modifying problematic assessment tools; limiting the inherent biases in and scope of conscientious objection; minimizing implicit and explicit bias at the point of care; and reforming medical education.

1. Reform health care to mitigate background inequities and involve physicians in that process

Addressing the background inequities that are amplified by clinical decision-making requires broad social change, which itself requires a large effort aimed at policy changes at the national level. Although there have been many efforts to enact new policies for different social issues, more work needs to be done regarding the nationwide implementation of these policies. For instance, in the case of substance

abuse, many scholars have thought hard about how to address these issues in a way that will not harm those already affected. Policies addressing substance abuse have been implemented in different cities but lack implementation at the nationwide level.[32] These policies include clean needle exchange programs, opioid agonist treatment programs, safe consumption sites, and other types of prevention.[32] Additional areas in which lack of policy implementation must be addressed including: poverty, unethical employment policies, stressful work environments, lack of social support and empathy, etc. Factors such as poverty, stress and lack of social support are connected with negative health outcomes.

For example, a patient who is experiencing lack of social support or poverty may be at greater risk of injection drug use. As previously mentioned, some cases of injection drug use led physicians to deny repeat valve replacement procedures. So, in this case, enacting better policies for social support and harm reduction strategies may provide greater resources and motivations for this patient to stop injecting drugs, therefore rebuilding their immune system, and decreasing their chances of needing to receive a valve replacement procedure in the case of infective endocarditis.

Physicians can play an important role in social change efforts. Participating in social justice movements may be a way in which physicians can show greater support for their patients, and physicians might be an important part of a broad coalition working for social change. For example, active participation of physicians in movements centered around racial equality, LGBTQIA+ rights, socioeconomic assistance and forgiveness programs, addiction policy reform, and others may have the potential to create a force of physician and patient union that is powerful enough to enact real social

change in the United States. Instances of racial justice movements over the past year have shown that with enough power and insistence on change, change can happen. Even though there is still a great deal of work to be done regarding racial justice in the United States, the recent successes show how influential it can be when people come together to enact change. Although enacting social change may be a big end goal, physician participation in social justice movements may be rewarded by smaller achievements as well. For instance, physician involvement in social justice movements may work to create better trust between disadvantaged communities and the medical field in general.

2. Modify problematic assessment tools

As discussed above, assessment tools are used to determine patient candidacy for many procedures across various medical specialties, but their use may be worsening background inequities. Assessment tools should be critically examined and redesigned to refine the amount of physician personal judgement that is used in medical decision making. This may be accomplished by creating more concrete guidelines on how to measure certain patient characteristics, and by creating a better understanding of which groups of patients should be assessed. It may be argued that all patients should be assessed to ensure adequate and fair allocation of medical resource whether that be physician time, transplant organs, or available beds.

As previously mentioned, the use of race as a correction factor in the VBAC was based on historically racist beliefs that have since been proved to be false.[6] In the recent years, race has been removed as a correction factor in the VBAC,[8] which is an

example of a problematic assessment tool that has been successfully modified. A similar evaluation process should be applied to other assessment tools.

3. Limit the inherent biases in and the scope of conscientious objection

However important conscientious objection may be to protecting the moral integrity of physicians, the possibility of bias being present in these cases must not be overlooked. This is a challenging issue to address, because it may be truly impossible to know a physician's motivation for choosing conscientious objection. Further, physicians may not even know if biases are present in their decisions to conscientiously object. It is often the case that the patient populations impacted by conscientious objection are already socially disadvantaged in some way. For this reason, efforts must be put forth to work towards identifying bias in these claims. A way to achieve this goal, while continuing to protect physician moral integrity, may be accomplished by allowing for conscientious objection to continue, but enacting policy to better evaluate the reasoning behind the physician's request to object.

If conscientious objection is to remain an acceptable practice in medicine, then there must be better policies developed to understand claims of conscience and distinguish between cases in which the patient's integrity is threatened and cases that just reflect implicit or explicit bias. For example, in the case mentioned previously about the pediatrician who had a conscientious objection to providing care for a lesbian couple and their future child, there was difficulty in determining whether the pediatricians claim of conscience was justifiable as a moral threat, or if it was based in bias and discrimination against lesbian couples.[27] This is an important situation to explore because bias and discrimination may be impacting patient care and could impact patient

trust in the medical profession. Therefore, there needs to be better effort put into place to identify and address potential situations where conscientious objection is used in a biased and discriminatory way.

It may be useful to consider making changes to policies regarding conscientious objection, to limit the impacts of conscientious objection on patients; an example is limiting the ability of physicians to choose a specialty in which they may have to perform a procedure that is morally threatening to them (i.e., limiting the ability for a physician to become an OB/GYN if that physician is morally threatened by performing an abortion). Of course, this may be difficult if the physician does not know they will have a moral reaction to a procedure prior to having that initial reaction. In this case, it may be difficult for the physician to identify procedures that may be morally threatening to them.

4. Minimize implicit and explicit bias at the point of care

Tools to address implicit and explicit bias at the point of care have been discussed in the literature and are an important solution. For example, one group of researchers has suggested mindfulness practices be established to combat the occurrence of implicit biases impacting patient care, citing evidence that mindfulness practice can reduce implicit biases by making physicians more aware of when implicit biases may be activated within their consciousness.[33] Further, they suggest that mindfulness practice can reduce stress in physicians which may reduce the activation of implicit biases.[33] Furthermore, these types of practices have shown to improve physician's ability to promote individual patient-centered care and better communication.[33] This is important because it may reduce discrimination towards patients in certain socially disadvantaged groups.[33]

Other attempts to combat bias have focused on graduate medical education residency programs. A specific study developed a training program for a family medicine residency program at an elite academic medical center in Minnesota.[34] This program implemented two workshops that offered lessons in ways to combat implicit bias in clinical practice.[34] The workshops were broken into two sessions, session one focused on race, racism, and white normativity, while session two focused on effective strategies to address the barriers to combating implicit bias.[34] Focus groups were conducted a few months after the initial workshops.[34] Overall, this attempt seemed to be relatively successful in educating residents on these issues while also creating a more effective environment to continue these important conversations.[34] Residents who participated in the study reported that the workshops provided an increased awareness about bias, a safe space for discussions about bias in family medicine, new strategies for combating bias, and new ideas for continuing the conversation about bias in family medicine.[34] Additional tools and techniques should be continuously developed to help address physician bias at the point of care.

5. Reform Medical Education

Changes can and should be made throughout different stages of the medical education process. Here I describe potential reforms in the medical school admissions process and in the medical education curriculum.

A. The admissions process

The medical school admissions process has evolved to place greater emphasis on individual experiences and attributes consistent with success as an ethical physician.[35] Some medical schools prevent admissions committees from having access

to certain parts of the medical school application.[36] Some schools remove candidate photos and detailed academic statistics once applicants have passed a certain threshold. Additionally, some schools mandate implicit association tests (IAT) for admissions committees, implicit bias workshops, and education tools on implicit bias mitigation techniques.[36] These specific changes have helped to address the impacts that admissions committees' biases may have on prospective medical students.[36] These techniques have helped create a more diverse demographic of future physicians.[36] Having a diverse demographic of physicians may function to reduce biases in an organic way by fostering an environment of greater understanding and empathy between physicians and patients.

B. Curricular changes and interventions

Making specific changes to medical school curricula may lessen the biases present in clinical encounters and decision making. The medical school application process now incorporates competencies to assess a candidate's ability to develop into a professional and ethical physician.[35] These competencies include "service orientation, social and interpersonal skills, cultural competence, teamwork, integrity and ethics, reliability and dependability, resilience and adaptability, capacity for improvement, and oral communication."[35] It is possible that development of these competencies in future physicians will work to alleviate the impacts of physician decision making on health inequities. The competencies reflect an empathetic, understanding, and humble character, all of which may aid future physicians in understanding the patients they are serving on a deeper level than just medical. With that, physicians may become more

aware of patient backgrounds and how societal constraints may be affecting their health.

Further, lack of education on conscientious objection policy may make it difficult for clinicians to teach medical students about treatments like abortion. If a clinician educator has an objection to abortions, they may be reluctant to teach students about these abortions.[37] This may also be exacerbated by the lack of knowledge on conscientious objection laws themselves.[37] Therefore, there must be changes in the medical education curriculum to ensure that these treatments get taught.

Another attempt to redesign the way in which future physicians are trained involved a program that put greater emphasis on ethics and medical humanities when teaching students professionalism.[35] This program emphasized the importance of understanding medical humanities when working to develop a physician with professionalism at their core.[35] The leaders of the program included experts from fields consisting of history, literature, ethics, and visual arts.[35] This program measured changes in professionalism by observing changes in physician behaviors.[35] The program emphasized the importance of keeping the patients interests primary and physician self-interest secondary.[35] The program sought to incorporate these aspects within medical education so that they would be instilled in future generations of physicians.[35] Essentially, these new attributes would be passed from physician mentors, to young physicians, to medical students during their training years.[35] Furthermore, the authors noted that due to lack of training in medical humanities and professionalism, medicine often fails those who are socially disadvantaged.[35]

This program provided recommendations for reform in each level of medical education. First, it was recommended that ethics become a core requirement for prospective medical students to take prior to applying to medical school.[35] Second, the authors recommended that medical humanities and ethics teaching be instilled in medical school curricula in an outcomes-based approach.[35] Third, it was recommended that residency education programs be reformed to emphasize mentor involvement in role modeling professionalism.[35] This would function to assess residents on their own professional development while simultaneously creating a better environment for residents to be assessed and empowered in their personal moral development.[35] Overall, the main outcome of this program sought to create an educational environment that allowed physicians to develop professionalism that was based in accountability and understanding.[35]

Reforming medical education in the ways mentioned above may work to address the problem of physician decisions about patient care that are contributing to health disparities and worse health outcomes for some populations. Creating a medical education system that is strongly based on professionalism, ethics, and medical humanities will work to create a system where it is acceptable for physicians to become aware of potential biases and have open discussion about them. This new system may also increase physician understanding of the everyday lives of their patients and how society plays a role in their patients' health. Medical education reform as described above may help overcome physician biases and mitigate their impacts on health inequity.

VII. Conclusion

There are multiple ways in which physician decisions may contribute to health disadvantage and the exacerbation of background inequities. This thesis analyzed three examples of types of physician decisions that may be contributing to worse health outcome, more severe health disparities, and the exacerbation of background inequities: the use of assessment tools in clinical decision making, the use of patient characteristics to determine eligibility for procedures, and conscientious objection to providing care. The impacts of these physician decisions are serious, but there may be solutions that can strategically address these issues. In order to address the impacts that physician decisions are having on patient outcomes, health disadvantage, and the exacerbation of background inequities, there must be continued efforts in identifying these issues and developing policies and reforms – such as those suggested here – to address them.

VIII. References

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